

**WHAT IS CLAIMED IS:**

1                    1. A method of converting a plurality of input field types to a plurality of  
2                    output field types by an application program, said method comprising:

3                    (a) receiving a first attribute of a first input field type and a second attribute of  
4                    a first output field type;

5                    (b) generating a first optimized conversion routine based on said first attribute  
6                    and said second attribute; and

7                    (c) executing said first optimized conversion routine from said application  
8                    program to convert said first input field type to said first output field type.

9                    2. The method of claim 1, wherein step (c) comprises calling said first  
10                    optimized conversion routine from said application.

11                    3. The method of claim 1, wherein step (c) comprises storing said first  
12                    optimized conversion routine inline with said application.

1                    4. The method of claim 1, wherein step (b) is performed dynamically while  
2                    said application program is executing.

1                    5. The method of claim 1, further comprising:

2 (d) receiving a third attribute of a second input field type and a fourth attribute  
3 of a second output field type;

4 (e) generating a second optimized conversion routine based on said third  
5 attribute and said fourth attribute; and

6 (f) executing said second optimized conversion routine from said application  
7 program to convert said second input field type to said second output field type.

6. The method of claim 1, wherein said first and second attribute is character  
type.

7. The method of claim 1, further comprising generating program debugging  
instrumentation for said first optimized conversion routine.

8. A method of converting data from input field types to output field types,  
said method comprising:

(a) receiving a plurality of input attributes and output attributes from an  
application program;

(b) dynamically generating a plurality of data field conversion routines for  
each set of input attributes and output attributes; and

7 (c) storing said plurality of data field conversion routines in memory accessible  
8 to said application program.

1 9. The method of claim 8, wherein said data field conversion routines are  
2 callable by said application program.

1 10. The method of claim 8, wherein said data field conversion routines are  
2 stored inline said application program.

1 11. The method of claim 8, wherein step (b) is performed dynamically while  
2 said application program is executing.

1 12. The method of claim 8, wherein said input and output attributes are  
2 character type.

1 13. The method of claim 8, wherein said input and output attributes are date  
2 type.

1 14. The method of claim 8, further comprising generating program debugging  
2 instrumentation for said plurality of data field conversion routines.

1 15. A system for dynamically generating computer data field conversion  
2 routines, said system comprising:  
3 a processor; and  
4 a memory device coupled to said processor;  
5 wherein said system is adapted to receive a plurality of input attributes and  
6 output attributes from an application program; and  
7 wherein said memory device stores instructions that, when executed by said  
8 processor, cause said processor to:  
9 dynamically generate a plurality of data field conversion routines for each set  
10 of input attributes and output attributes; and  
11 store said plurality of data field conversion routines in a second memory  
12 device accessible to said application program.

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1           18. The system of claim 15, wherein said plurality of data field conversion  
2 routines are generated while said application program is executing.

1           19. The system of claim 15, wherein said input attributes are character type  
2 and said output attributes are date type.

1           20. The system of claim 15, wherein said processor further generates program  
debugging instrumentation for said plurality of data field conversion routines.